

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Ekkehard LEBERER et al.

Title: POTASSIUM CHANNEL
MUTANTS OF THE YEAST
SACCHAROMYCES CEREVISIAE
AND THEIR USE FOR SCREENING
EUKARYOTIC POTASSIUM
CHANNELS

Appl. No.: Unassigned

Filing Date: 1/11/2001

Examiner: Unassigned

Art Unit: Unassigned

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination of the above-identified application, Applicant respectfully request that the following amendment be entered into the application:

IN THE CLAIMS:

3. (Amended) The process as claimed in [one or more of claims 1 and 2] claim 1, wherein the eukaryotic potassium channel is a human potassium channel.
4. (Amended) The process as claimed in [one or more of claims 1 to] claim 3, wherein the eukaryotic potassium channel is a HERG1, Kv1.5 or gpiRK1.
5. (Amended) The process as claimed in [one or more of claims 1 to] claim 4, wherein the eukaryotic potassium channel is mutated.

6. (Amended) The process as claimed in [one or more of claims 1 to] claim 5, wherein the eukaryotic potassium channel is present in a yeast expression plasmid.

7. (Amended) The process as claimed in [one or more of claims 1 to] claim 6, wherein the mutated *S. cerevisiae* cell expresses constitutively a growth reporter.

8. (Amended) The process as claimed in [one or more of claims 1 to] claim 7, wherein a substance to be tested, which has an effect on the eukaryotic potassium channel, inhibits the growth of the mutated *S. cerevisiae* cell.

9. (Amended) The process as claimed in [one or more of claims 1 to] claim 7, wherein the effect of a substance to be tested on the eukaryotic potassium channel is determined by measuring the cell count of the mutated *S. cerevisiae* cells.

14. (Amended) The mutated *S. cerevisiae* cell as claimed in [one or more of claims 11 to] claim 13, which *S. cerevisiae* cell expresses heterologously a eukaryotic potassium channel.

15. (Amended) The mutated *S. cerevisiae* cell as claimed in [one or more of claims 11 to] claim 14, wherein the eukaryotic potassium channel is a human potassium channel.

16. (Amended) The mutated *S. cerevisiae* cell as claimed in [one or more of claims 11 to] claim 15, wherein the eukaryotic potassium channel is a HERG1, Kv1.5 or gPIRK1.

17. (Amended) The mutated *S. cerevisiae* cell as claimed in [one or more of claims 11 to] claim 16, wherein the eukaryotic potassium channel is mutated.

19. (Amended) The use of a mutated *S. cerevisiae* cell as claimed in [one or more of claims 11 to] claim 17 for identifying substances which inhibit the activity of the eukaryotic potassium channel.

22. (Amended) A test kit [comprisng] comprising a mutated *S. cerevisiae* cell as claimed in [any of claims 11 to] claim 17.

23. (Amended) A process for the preparation of a medicament, wherein

a) an inhibitor of a eukaryotic potassium channel is identified with the aid of a process as claimed in [any of claims 1 to] claim 10,

b) the inhibitor is prepared or isolated by known chemical processes, and

c) physiologically acceptable additives are added to the inhibitor.

24. (Amended) A process for the preparation of a medicament, wherein

a) an activator of a eukaryotic potassium channel is identified with the aid of a process as claimed in [either of claims 20 and] claim 21,

b) the activator is prepared or isolated by known chemical processes, and

c) physiologically acceptable additives are added to the activator.

REMARKS

Applicants respectfully request that the foregoing amendments to Claims 3-9, 14-17, 19, 22 and 23 be entered in order to avoid this application incurring a surcharge for the presence of one or more multiple dependent claims.

Respectfully submitted,

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